Manufacturing of cryogenic engine

†5101. SHRMATIKUMKUMRAI: WU1 the PRIME MINISTER be pleased to state:

(a) whether country had succeeded in manufacturing cryogenic engine with the help of indigenous technology, associated with the space-programme; and

(b) if so, the details thereof?

THE MINISTER OF STATE IN THE DEPARTMENT OF SPACE (SHRISATYABRATA MOOKHERJEE): (a) Yes, Sir.

(b) Under the indigenous Cryogenic Upper Stage (CUS) Project, ISRO has successfully designed and manufactured the cryogenic engine, which has been tested in the ground evaluation tests. The first flight demonstration of the engine as part of indigenous cryogenic upper stage in a development flight of GSLV is tentatively planned during 2004-05.

Communication Satellites

5102. SHRIRAJEEVSHUKLA: Will the PRIME MINISTER be pleased to state:

(a) the number of communication satellites launched by India during the last five years;

(b) the details of the cost, coverage and benefits involved therein; and

(c) the state of progress of research and development to produce indigenous rockets to lunch the satellites in future?

THE MINISTER OF STATE IN THE DEPARTMENT OF SPACE (SHRI SATYABRATA MOOKHERJEE) : (a) India has launched five communication satellites during the last five years.

(b) The information is given in the enclosed Statement *(See* below).

(c) India has developed the capability to launch indigenously built Remote Sensing Satellites into polar orbits and Geostationary Satellites weighing upto 1800 Kg. into Geostationary orbit through the Polar Satellite Launch Vehicle (PSLV) and Geostationary Satellite Launch Vehicle (GSLV) respectively.

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†Original notice of the question was received in Hindi.